

**IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF TENNESSEE
Nashville Division**

L.W., by and through her parents and next friends, Samantha Williams and Brian Williams, *et al.*,

Plaintiffs,

v.

JONATHAN SKRMETTI, in his official capacity as the Tennessee Attorney General and Reporter, *et al.*,

Defendants.

Civil No. 3:23-cv-00376

EXPERT DECLARATION OF JACK TURBAN, M.D.

I, Jack Turban, M.D., hereby declare and state as follows:

1. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

2. I have actual knowledge of the matters stated herein.

3. In preparing this declaration, I reviewed Tennessee Senate Bill 1 (hereafter “ban”).

In addition to that legislation and the materials cited herein, I have also relied on my years of research and other experience, as set out in my curriculum vitae (Exhibit A) in forming my opinions. The materials I have relied upon in preparing this declaration are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject. I may wish to supplement these opinions or the bases for them as a result of new scientific research or publications or in response to statements and issues that may arise in my area of expertise.

BACKGROUND AND QUALIFICATIONS

4. I am currently an Assistant Professor of Child & Adolescent Psychiatry at the University of California, San Francisco School (UCSF) of Medicine, where I am also Affiliate Faculty at the Philip R. Lee Institute for Health Policy Studies. As a member of the faculty at UCSF, I serve as director of the Gender Psychiatry Program in the Division of Child & Adolescent Psychiatry. I also serve as an attending psychiatrist in the adult LGBT psychiatry clinic, and in the eating disorders program. I conduct research focusing on the determinants of mental health among transgender youth and teach medical students, psychology trainees, psychiatry residents, and child and adolescent psychiatry fellows.

5. I received my undergraduate degree in neuroscience from Harvard College. I received both my MD and Master of Health Science degrees from Yale University School of Medicine. I completed residency training in general psychiatry in the combined Massachusetts General Hospital / McLean Hospital residency training program (Harvard Medical School) and fellowship training in child and adolescent psychiatry at Stanford University. I am board certified in psychiatry by The American Board of Psychiatry and Neurology.

6. My research focuses on the mental health of transgender youth and gender dysphoria. While at Yale, I was awarded the Ferris Prize for my thesis entitled “Evolving Treatment Paradigms for Transgender Youth.” In 2017, I received the United States Preventative Health Services Award for Excellence in Public Health based on my work related to the mental health of transgender youth. I have lectured on the mental health of transgender youth at Yale School of Medicine, The University of California San Francisco, Stanford University, and The Massachusetts General Hospital (a teaching hospital of Harvard Medical School). I have given grand rounds presentations around the country and have presented nationally and internationally

on topics related to the mental health of transgender people and people experiencing gender dysphoria.

7. I have served as a manuscript reviewer for numerous professional publications, including *The Journal of The American Medical Association (JAMA)*, *JAMA Pediatrics*, *JAMA Psychiatry*, *The Journal of The American Academy of Child & Adolescent Psychiatry*, *Pediatrics*, *The Journal of Adolescent Health*, and *The American Journal of Public Health*. I have served as lead author for textbook chapters on the mental health of transgender youth, including for *Lewis's Child & Adolescent Psychiatry: A Comprehensive Textbook* and the textbook of The International Academy for Child & Adolescent Psychiatry and Allied Professionals. I am co-editor of the textbook *Pediatric Gender Identity: Gender-Affirming Care for Transgender and Gender Diverse Youth*.

8. I have published extensively on the topic of transgender youth, including ten articles in peer-reviewed journals within the past two years.

9. I was deposed and testified at trial in *Brandt et al. v. Rutledge, et al.*, No. 21-CV-450 (D. Ark. 2021).

10. I am being compensated at an hourly rate of \$250 per hour for preparation of expert declarations and reports, and \$400 per hour for time spent preparing for or giving deposition or trial testimony. My compensation does not depend on the outcome of this litigation, the opinions I express, or the testimony I provide.

SUMMARY OF OPINIONS

11. In this declaration, I cite relevant literature to support my opinions that: (1) gender-affirming medical interventions improve mental health outcomes for adolescents with gender dysphoria when medically indicated; (2) adolescents who experience gender dysphoria at the onset of puberty rarely come to identify with their assigned sex at birth, and (3) de-transition and regret among individuals receiving medical treatment for gender dysphoria are uncommon.

GENDER-AFFIRMING MEDICAL INTERVENTIONS IMPROVE MENTAL HEALTH OUTCOMES FOR ADOLESCENTS WITH GENDER DYSPHORIA WHEN MEDICALLY INDICATED

12. The claims made by the legislature in support of the ban are not supported by data and are counter to the widely accepted views of the mainstream medical community. Existing research shows gender-affirming medical treatments for adolescents with gender dysphoria are consistently linked to improved mental health, and denial of such care is expected to lead to adverse mental health outcomes, including, in some instances, worsening suicidality.

13. The ban's assertion that gender-affirming medical care for adolescents with gender dysphoria is "not consistent with professional medical standards" is false. All relevant major medical organizations have highlighted the importance of this care and have issued explicit statements opposing bans on gender-affirming medical care for adolescents with gender dysphoria. These organizations include The American Medical Association, The American Academy of Pediatrics, The American Psychiatric Association, The American College of Physicians, The American Academy of Family Physicians, The American Academy of Child & Adolescent Psychiatry, The Endocrine Society, The Pediatric Endocrine Society, The World Professional

Association for Transgender Health, and the United States Professional Association for Transgender Health.¹

14. The ban’s assertion that gender-affirming medical care is “experimental in nature” is also incorrect. In ascribing this term to gender-affirming medical interventions, it presumably is alluding to the fact that pubertal suppression and gender-affirming hormones do not have FDA indications for gender dysphoria specifically, but rather for other conditions. Prescribing FDA-approved medications without specific FDA indications for the condition being treated is common in medicine generally and particularly in pediatrics. It is referred to as “off-label” prescribing.² The American Academy of Pediatrics has explained, “it is important to note that the term ‘off-label’ does not imply an improper, illegal, contraindicated, or investigational use.”³ The Academy goes on to explain that “off-label use of medications is neither experimentation nor research.” A substantial body of evidence links gender-affirming medical interventions to improved mental health outcomes for adolescents with gender dysphoria, who, without treatment, experience higher levels of depression, anxiety, and suicidality. While each of these studies—as with all studies in medicine—has strengths and limitations, and no one study design can answer all questions regarding an intervention, taken together, these studies indicate that gender-affirming medical care improves mental health for adolescents who require such care.

¹ For a list of statements, please see Turban, J. L., Kraschel, K. L., & Cohen, I. G. (2021). Legislation to criminalize gender-affirming medical care for transgender youth. *JAMA*, 325(22), 2251-2252.

² American Academy of Pediatrics Committee on Drugs. (2014). Policy Statement: Off-label use of drugs in children. *Pediatrics*, 133(3), 563-567.

³ *Id.*

15. Peer-reviewed cross-sectional and longitudinal studies⁴ have found that pubertal suppression is associated with a range of improved mental health outcomes for adolescents with gender dysphoria, including statistically significant improvements in internalizing psychopathology (*i.e.*, anxiety and depression), externalizing psychopathology (*e.g.*, disruptive behaviors), global functioning, and suicidality.⁵ For example, in the realm of cross-sectional studies, Turban et al. *Pediatrics* 2020 found that, after controlling for a range of other variables, those who accessed pubertal suppression had lower odds of lifetime suicidal ideation than those who desired but were unable to access this intervention during adolescence.⁶ A similar study by van der Miesen et al. in the *Journal of Adolescent Health* compared 272 adolescents who had not yet received pubertal suppression with 178 adolescents who had been treated with pubertal suppression.⁷ Those who had received pubertal suppression had statistically significant lower

⁴ A note on methodology: cross-sectional studies examine mental health at a single point in time. For example, van der Miesen et al. 2020 *Journal of Adolescent Health* compared, at a single time point, those who accessed pubertal suppression with those who desired but had not accessed it. Longitudinal studies examine multiple time points (*e.g.*, looking at levels of suicidality before and after gender-affirming medical care).

⁵ See for example, de Vries, A.L., Steensma, T.D., Doreleijers, T.A., & Cohen-Kettenis, P.T. (2011). Puberty Suppression in Adolescents with Gender Identity Disorder: A Prospective Follow-Up Study. *The Journal of Sexual Medicine*, 8(8), 2276-2283., Turban, J.L., King, D., Carswell, J.M., & Keuroghlian, A.S. (2020). Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation. *Pediatrics*, 145(2):e20191725., van der Miesen, A.I., Steensma, T.D., de Vries, A.L., *et al.* (2020). Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care Compared with Cisgender General Population Peers. *Journal of Adolescent Health*, 66(6), 699-704., and Achille, C., Taggart, T., Eaton, N.R., *et al.* (2020). Longitudinal Impact of Gender-Affirming Endocrine Intervention on the Mental Health and Well-Being of Transgender Youths: Preliminary Results. *International Journal of Pediatric Endocrinology*, 2020(8), 1-5.

⁶ Turban, J.L., King, D., Carswell, J.M., & Keuroghlian, A.S. (2020). Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation. *Pediatrics*, 145(2):e20191725.

⁷ van der Miesen, A.I., Steensma, T.D., de Vries, A.L., *et al.* (2020). Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care

“internalizing psychopathology” scores (a measure of anxiety and depression). Longitudinal studies have yielded similar results.⁸

16. Peer-reviewed research studies have likewise found improved mental health outcomes following gender-affirming hormone treatment (*e.g.*, estrogen or testosterone) for individuals with gender dysphoria, including adolescents. These include statistically significant improvements in internalizing psychopathology (*e.g.*, anxiety and depression), general well-being, and suicidality.⁹ For example, Chen et al. followed a cohort of 315 transgender youth receiving gender-affirming hormone treatment and found improvements in anxiety, depression, and life satisfaction.¹⁰ Similarly, Allen et al. followed a cohort of 47 adolescents with gender dysphoria, and found statistically significant improvements in general well-being and suicidality, as measured

Compared with Cisgender General Population Peers. *Journal of Adolescent Health*, 66(6), 699-704.

⁸ See for example, de Vries, A.L., McGuire, J.K., Steensma, T.D., *et al.* (2014). Young Adult Psychological Outcome After Puberty Suppression and Gender Reassignment. *Pediatrics*, 134(4), 696-704 and Costa, R., Dunsford, M., Skagerberg, E., Holt, V., Carmichael, P., & Colizzi, M. (2015). Psychological support, puberty suppression, and psychosocial functioning in adolescents with gender dysphoria. *Journal of Sexual Medicine*, 12(11), 2206-2214.

⁹ See for example, Chen, D., Berona, J., Chan, Y. M., Ehrensaft, D., Garofalo, R., Hidalgo, M. A., ... & Olson-Kennedy, J. (2023). Psychosocial Functioning in Transgender Youth after 2 Years of Hormones. *New England Journal of Medicine*, 388(3), 240-250., Allen, L.R., Watson, L.B., Egan, A.M., & Moser, C.N. (2019). Well-Being and Suicidality Among Transgender Youth After Gender-Affirming Hormones. *Clinical Practice in Pediatric Psychology*, 7(3), 302-311., Achille, C., Taggart, T., Eaton, N.R., *et al.* (2020). Longitudinal Impact of Gender-Affirming Endocrine Intervention on the Mental Health and Well-Being of Transgender Youths: Preliminary Results. *International Journal of Pediatric Endocrinology*, 2020(8), 1-5., and de Lara, D.L., Rodríguez, O.P., Flores, I.C., *et al.* (2020). Psychosocial Assessment in Transgender Adolescents. *Anales de Pediatría (English Edition)*, 93(1), 41-48..

¹⁰ Chen, D., Berona, J., Chan, Y. M., Ehrensaft, D., Garofalo, R., Hidalgo, M. A., ... & Olson-Kennedy, J. (2023). Psychosocial Functioning in Transgender Youth after 2 Years of Hormones. *New England Journal of Medicine*, 388(3), 240-250.

by the National Institutes of Health “Ask Suicide Screening Questions” instrument.¹¹ Cross-sectional studies comparing those who accessed gender-affirming hormones during adolescence to those who did not access these interventions have similarly linked access to gender-affirming hormone treatment during adolescence to lower odds of suicidality.¹²

17. Peer-reviewed research has also shown improvements in mental health following gender-affirming chest surgery¹³ for transmasculine adolescents with gender dysphoria, where medically indicated.¹⁴ A study by Tang et al. examined 209 adolescents who had undergone

¹¹ Allen, L.R., Watson, L.B., Egan, A.M., & Moser, C.N. (2019). Well-Being and Suicidality Among Transgender Youth After Gender-Affirming Hormones. *Clinical Practice in Pediatric Psychology*, 7(3), 302-311.

¹² See for example, Turban, J. L., King, D., Kobe, J., Reisner, S. L., & Keuroghlian, A. S. (2022). Access to gender-affirming hormones during adolescence and mental health outcomes among transgender adults. *PLoS One*, 17(1), e0261039 and Green, A. E., DeChants, J. P., Price, M. N., & Davis, C. K. (2022). Association of gender-affirming hormone therapy with depression, thoughts of suicide, and attempted suicide among transgender and nonbinary youth. *Journal of Adolescent Health*, 70(4), 643-649.

¹³ Of note, all surgical interventions in pediatrics (for gender dysphoria or otherwise) are approached with substantial caution, given the risks inherent with any kind of surgery. Gender-affirming chest surgery is only considered for adolescents with gender dysphoria when an interdisciplinary team, including medical providers, surgical providers, mental health providers, the adolescent, and their legal guardians are in agreement that the benefits of such an intervention would outweigh the risks.

¹⁴ Olson-Kennedy, J., Warus, J., Okonta, V., et al. (2018). Chest Reconstruction and Chest Dysphoria in Transmasculine Minors and Young Adults: Comparisons of Nonsurgical and Postsurgical Cohorts. *JAMA Pediatrics*, 172(5), 431-436; Mehringer, J.E., Harrison, J.B., Quain, K.M., et al. (2021). Experience of Chest Dysphoria and Masculinizing Chest Surgery in Transmasculine Youth. *Pediatrics*, 147(3):e2020013300. Large studies of primarily adults have also shown high rates of satisfaction with gender-affirming chest surgery; for example, a recent systematic review that included data from 1,052 transmasculine patients found that pooled overall postoperative satisfaction was 92%. Bustos, V.P., Bustos, S.S., Mascaro, A., et al. (2021). Transgender and Gender-Nonbinary Patient Satisfaction After Transmasculine Chest Surgery. *Plastic and Reconstructive Surgery Global Open*, 9(3):e3479.

gender-affirming chest surgery between 2013 and 2020 and found an extremely low rate of post-operative regret (0.95%).¹⁵

18. Overall, as summarized above, existing peer-reviewed published research studies consistently link gender-affirming medical interventions to improved mental health for individuals with gender dysphoria, including adolescents.

19. The ban asserts that adolescent gender dysphoria “can be resolved by less invasive approaches that are likely to result in better outcomes for the minor.” It is notable that the medical ban does not list any specific evidence-based interventions, other than gender-affirming medical care, that treat adolescent gender dysphoria. That is because none exist. There are no evidence-based psychotherapy protocols that effectively treat gender dysphoria. Under this law, medical and mental health providers would be left with no evidence-based treatment approaches to support their adolescent patients with gender dysphoria. This would be a devastating situation for adolescents and their parents, physicians, and other mental health providers who care for them.

20. In the past, some clinicians have described psychotherapeutic strategies that aimed to result in youth with gender dysphoria identifying with their sex assigned at birth.¹⁶ Such practices, termed “gender identity conversion efforts” have subsequently been linked to adverse mental health outcomes, including suicide attempts.¹⁷ In addition to being harmful, there is no

¹⁵ Tang, A., Hojilla, J. C., Jackson, J. E., Rothenberg, K. A., Gologorsky, R. C., Stram, D. A., ... & Yokoo, K. M. (2022). Gender-affirming mastectomy trends and surgical outcomes in adolescents. *Annals of Plastic Surgery*, 88(4), S325-S331

¹⁶ Meyer-Bahlburg, H.F. (2002). Gender Identity Disorder in Young Boys: A Parent-and Peer-Based Treatment Protocol. *Clinical Child Psychology and Psychiatry*, 7(3), 360-376.

¹⁷ Turban, J.L., Beckwith, N., Reisner, S.L., & Keuroghlian, A.S. (2020). Association Between Recalled Exposure to Gender Identity Conversion Efforts and Psychological Distress and Suicide Attempts Among Transgender Adults. *JAMA Psychiatry*, 77(1), 68-76.

peer-reviewed research to suggest that these gender identity conversion efforts are successful in changing a person's gender identity from transgender to cisgender. Gender identity conversion efforts have been labelled unethical by major medical organizations including The American Medical Association¹⁸ and The American Academy of Child & Adolescent Psychiatry.¹⁹

21. The ban asserts that gender-affirming medical care is not supported by “long-term medical studies.” However, it does not state what period of longitudinal follow-up would be considered adequate. One study by deVries et al. in the journal *Pediatrics* examined mental health outcomes a mean 5.9 years after starting pubertal suppression.²⁰ Turban et al. 2022 *PLoS One*, which found associations between access to gender-affirming hormone treatment during adolescence and better mental health outcomes, similarly examined mental health outcomes a mean six to seven years after starting gender-affirming hormones.²¹ To put this into context, a major study used by the FDA to approve the medication lurasidone for bipolar depression in children and adolescents followed study participants for six weeks.²² If the state were to ban all

¹⁸ American Medical Association. (2017). Health Care Needs of Lesbian, Gay, Bisexual and Transgender Populations. H-160.991. Available at <https://policysearch.ama-assn.org/policyfinder/detail/gender%20identity?uri=%2FAMADoc%2FHOD.xml-0-805.xml>.

¹⁹ The American Academy of Child & Adolescent Psychiatry. (2018). Conversion Therapy. Available at https://www.aacap.org/AACAP/Policy_Statements/2018/Conversion_Therapy.aspx.

²⁰ de Vries, A.L., McGuire, J.K., Steensma, T.D., *et al.* (2014). Young Adult Psychological Outcome After Puberty Suppression and Gender Reassignment. *Pediatrics*, 134(4), 696-704.

²¹ Turban J.L., King D., Kobe J., Reisner S.L., Keuroghlian A.S. (2022) Access to gender-affirming hormones during adolescence and mental health outcomes among transgender adults. *PLoS One*. 17(1): e0261039.

²² DelBello, M. P., Goldman, R., Phillips, D., Deng, L., Cucchiaro, J., & Loebel, A. (2017). Efficacy and safety of lurasidone in children and adolescents with bipolar I depression: a

medications that lack at least a decade of long-term follow up studies, that would require banning a substantial proportion of FDA-approved and relied-upon medications.

22. Given the well-documented benefits of gender-affirming medical care outlined above, and the known harms of untreated adolescent gender dysphoria, banning this care is expected to lead to substantial deterioration of mental health for adolescents diagnosed with gender dysphoria. For many of these patients, this is likely to include worsening suicidality.²³ A recent qualitative study of 273 parents of transgender youth identified that bans on gender-affirming care led to substantial concerns that their children would have worsening mental health and be at an increased risk of death from suicide.²⁴ These parents implored lawmakers to leave critical decisions about gender-affirming medical interventions to families and their medical providers.²⁵ Another qualitative study of 103 healthcare providers who care for transgender youth similarly

double-blind, placebo-controlled study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56(12), 1015-1025.

²³ See, for example, Green, A. E., DeChants, J. P., Price, M. N., & Davis, C. K. (2022). Association of gender-affirming hormone therapy with depression, thoughts of suicide, and attempted suicide among transgender and nonbinary youth. *Journal of Adolescent Health*, 70(4), 643-649 and other studies cited above.

²⁴ Kidd, K. M., Sequeira, G. M., Paglisotti, T., Katz-Wise, S. L., Kazmerski, T. M., Hillier, A., ... & Dowshen, N. (2021). "This could mean death for my child": Parent perspectives on laws banning gender-affirming care for transgender adolescents. *Journal of Adolescent Health*, 68(6), 1082-1088.

²⁵ Kidd, K. M., Sequeira, G. M., Paglisotti, T., Katz-Wise, S. L., Kazmerski, T. M., Hillier, A., ... & Dowshen, N. (2021). "This could mean death for my child": Parent perspectives on laws banning gender-affirming care for transgender adolescents. *Journal of Adolescent Health*, 68(6), 1082-1088.

identified substantial concerns that such bans would lead to worsening mental health and increased risk of suicide for adolescents with gender dysphoria.²⁶

ADOLESCENTS WHO EXPERIENCE GENDER DYSPHORIA AT THE ONSET OF PUBERTY RARELY COME TO IDENTIFY WITH THEIR ASSIGNED SEX AT BIRTH

23. Though the terms “children” and “adolescents” are sometimes used synonymously in common parlance, these terms have specific and distinct meanings in the context of child and adolescent psychiatric research. In this field, “child” and “children” refer to minors who have not yet reached the earliest stages of puberty. The terms “adolescent” and “adolescents” refer to minors who have begun puberty. Studies of prepubertal children (who are not candidates for gender-affirming medical interventions under any existing clinical guidelines) cannot be conflated with studies of adolescents (who, depending on several factors, may be candidates for various forms of gender-affirming medical interventions).

24. This distinction is vital in the realm of “desistence” studies (*i.e.*, studies that aim to assess how many young people who identify as transgender will later identify as cisgender). The suggestion that a majority of transgender minors affected by this law will come to identify with their assigned sex at birth inappropriately relies on studies of gender diverse *prepubertal* children, which have, in the past, shown that many of these children will not grow up to be transgender. These studies do not apply to transgender minors who have reached puberty (*i.e.*, “adolescents”). Once a transgender youth begins puberty, it is rare for them to later identify as cisgender.²⁷

²⁶ Hughes, L. D., Kidd, K. M., Gamarel, K. E., Operario, D., & Dowshen, N. (2021). “These laws will be devastating”: Provider perspectives on legislation banning gender-affirming care for transgender adolescents. *Journal of Adolescent Health*, 69(6), 976-982.

²⁷ See for example de Vries, A.L., McGuire, J.K., Steensma, T.D., *et al.* (2014). Young Adult Psychological Outcome After Puberty Suppression and Gender Reassignment. *Pediatrics*, 134(4), 696-704., Turban, J.L., de Vries, A.L.C., & Zucker, K. (2018). Gender Incongruence & Gender Dysphoria. In Martin A., Bloch M.H., &

Furthermore, physicians and families must weigh the low risk of a future cisgender identification against the often substantial risk of deteriorating mental health due to active gender dysphoria. Under existing medical guidelines, any minor who is considering gender-affirming medical or surgical interventions must first work with a mental health professional to conduct a complete biopsychosocial evaluation, which includes ensuring that an adolescent and their parents understand the complexity of this decision. Such evaluations are designed to minimize regret rates.

25. Any study regarding prepubertal children and their likelihood of ultimately identifying as transgender should not be used to assess the interventions targeted by the ban, namely, pubertal suppression, hormone therapy, and gender-affirming surgery, since none of these interventions are provided to prepubertal patients under current medical guidelines.²⁸

26. Further, the utility of “desistence” studies even for assessing the likelihood that prepubertal children will persist in a transgender identity has been questioned due to their reliance on an outdated diagnosis of “gender identity disorder in children,” which did not require a child to identify as a sex different than their sex assigned at birth. This diagnosis likely captured many cisgender “tomboys” or cisgender boys with feminine interests like dresses or dolls who never identified as transgender and, thus, unsurprisingly did not identify as transgender when followed up with later in life. In contrast, the diagnosis of “gender dysphoria in children” requires one to not merely have gender atypical interests and behaviors; one must identify as a gender different than one’s sex assigned at birth. This is a vital distinction. While the diagnostic category of

Volkmar F.R. (Editors): *Lewis’s Child and Adolescent Psychiatry: A Comprehensive Textbook, Fifth Edition*. Philadelphia: Wolters Kluwer.

²⁸ Hembree, W.C., Cohen-Kettenis, P.T., Gooren, L., *et al.* (2017). Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline. *The Journal of Clinical Endocrinology & Metabolism*, 102(11), 3869-3903.

“gender identity disorder” would capture many cisgender children, the diagnostic category of “gender dysphoria,” by definition, does not.²⁹ Of note, a recent study by Kristina Olson et al. found that the vast majority of prepubertal transgender children continued to identify as transgender over a five-year follow-up period.³⁰

DE-TRANSITION AND REGRET AMONG INDIVIDUALS RECEIVING MEDICAL TREATMENT FOR GENDER DYSPHORIA ARE UNCOMMON

27. The legislative findings in the ban and the legislative testimony concerning the ban focused on the risk of “de-transition” and the possibility of regret following gender-affirming medical care. De-transition and transition regret are distinct concepts and neither is common.

28. The term “de-transition” is used inconsistently in literature and may sometimes refer to simply the stopping of medical interventions. But discontinuation of gender-affirming medical interventions does not always coincide with a change in understanding of one’s gender identity or with transition-related regret. Rather, transgender adolescent patients who discontinue gender-affirming medical interventions may do so because of external factors (*e.g.*, pressure from family, societal rejection, harassment by peers). For example, a substantial number of currently identified transgender people (13.1%) have “de-transitioned” at some point in their life, with the majority (82.5%) citing external factors like family rejection, societal stigma, or harassment.³¹

²⁹ The desistance have also been criticized for a range of methodological limitations. Olson, K.R. (2016). Prepubescent Transgender Children: What We Do and Do Not Know. *Journal of the American Academy of Child & Adolescent Psychiatry*, 3(55), 155-156.

³⁰ Olson, K. R., Durwood, L., Horton, R., Gallagher, N. M., & Devor, A. (2022). Gender identity 5 years after social transition. *Pediatrics*.

³¹ Turban, J. L., Loo, S. S., Almazan, A. N., & Keuroghlian, A. S. (2021). Factors Leading to “Detransition” Among Transgender and Gender Diverse People in the United States: A Mixed-Methods Analysis. *LGBT Health*, 8(4), 273-280.

Given that these people *currently* identify as transgender, it highlights that many people who “de-transition” choose to transition again in the future.

29. Studies focused specifically on regret, as opposed to the broad heterogeneous category of “de-transition,” indicate that regret is extremely rare. In 2018, Amsterdam’s VUMC Center of Expertise on Gender Dysphoria published the rates of regret among their cohort of 6,793 transgender patients who had undergone gender-affirming medical and/or surgical interventions.³² Among transgender women with gender dysphoria who underwent gender-affirming surgery, 0.6% experienced regret. Among transgender men with gender dysphoria who underwent gender-affirming surgery, 0.3% experienced regret. Several of those who experienced regret were classified as having “social regret” rather than “true regret,” defined in the study as still identifying as transgender but deciding to reverse their gender-affirming surgery due to factors like “the loss of relatives [being] a large sacrifice.” The study also reported that only 1.9% of adolescents who started pubertal suppression did not choose to go onto gender-affirming hormones. In a second study of 143 transgender adolescents who started pubertal suppression, five adolescents (3.5%) decided not to proceed with further gender-affirming medical treatments.³³ One of these adolescents noted that pubertal suppression helped them to better understand their gender identity, and they ultimately identified with their sex assigned at birth. One birth-assigned female had ongoing chest dysphoria but chose to live with a female gender expression regardless, though was dreading further breast development and menstruation. One stopped due to unspecified

³² Wiepjes, C. M., Nota, N. M., de Blok, C. J., Klaver, M., de Vries, A. L., Wensing-Kruger, S. A., ... & den Heijer, M. (2018). The Amsterdam cohort of gender dysphoria study (1972–2015): trends in prevalence, treatment, and regrets. *The Journal of Sexual Medicine*, 15(4), 582-590.

³³ Brik, T., Vrouenraets, L. J., de Vries, M. C., & Hannema, S. E. (2020). Trajectories of adolescents treated with gonadotropin-releasing hormone analogues for gender dysphoria. *Archives of Sexual Behavior*, 49(7), 2611-2618.

“psychosocial reasons” but continued to identify as transgender. One identified as gender non-binary and felt they no longer needed treatment. One came to identify with his sex assigned at birth. There was no indication that any of these adolescents *regretted* pubertal suppression; rather, this study shows that the treatment served its goal of allowing adolescents more time to better understand their gender identity before being assessed for additional treatment. Cases of initiating then discontinuing gender-affirming hormones like estrogen or testosterone appear to be uncommon, largely at the case report level.³⁴ In one of these case reports, a patient similarly noted that a trial of estrogen helped them to better understand their gender identity, which had evolved to non-binary, and they did not regret initiating estrogen therapy.³⁵ Though there have been scattered and difficult-to-confirm social media reports of people regretting gender-affirming medical care, this must be considered in the context of the 1.4 million transgender people in the United States alone.³⁶

30. All treatments in medicine carry risks, benefits, and side effects. It is essential that parents, adolescents, and their doctors be able to work together to weigh these factors and choose a path forward that is *most likely* to improve a young person’s health, including their mental health. If the government were to ban all medical treatments with potential adverse side effects or the possibility of regret, it would ban essentially of all medicine. As one example, the vast majority of people who take the antibiotic penicillin find that their infections resolve; however, a small number

³⁴ A case report is a publication in which clinicians report on what occurred with a single patient.

³⁵ Turban, J. L., Carswell, J., & Keuroghlian, A. S. (2018). Understanding pediatric patients who discontinue gender-affirming hormonal interventions. *JAMA Pediatrics*, 172(10), 903-904.

³⁶ Flores, A.R., Herman, J.L., Gates, G.J., & Brown, T.N.T. (2016). How Many Adults Identify as Transgender in the United States? Los Angeles: The Williams Institute.

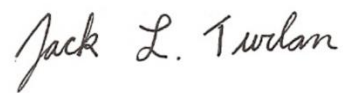
of people will experience Stevens-Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN) from the medication – rare potentially fatal conditions in which the person’s skin detaches.³⁷ Morbidity rates from SJS/TEN are as high as 50%. The cholesterol-lowering medication atorvastatin (known to many under the brand name Lipitor) is one of the most commonly prescribed medications in the U.S., given its potential to lower cholesterol and subsequently reduce the risk of a heart attack. However, a small number of people will experience rhabdomyolysis as a side effect – a potentially fatal form of muscle breakdown that can cause kidney damage. Though both these medications carry a serious risk of adverse side effects, they help the vast majority of people, and thus should not be—and are not—banned. The responsibility of the provider of care is to inform patients about these risks, benefits, and potential side effects, and work with patients and families to identify the best course of action. Gender-affirming care is not unique in carrying risks, side effects, or the possibility of regret.

31. While there is undoubtedly a small number of people who start gender-affirming medical interventions and later stop them, only a minority of this small number appear to regret the treatment, and existing research suggests that regret following gender-affirming medical interventions is rare. As with all medical interventions, gender-affirming medical interventions cannot claim a 100% success rate. However, for the vast majority of adolescents, these interventions improve mental health. Accordingly, it is dangerous to take the only evidence-based treatment option away from families and physicians as they work together to examine existing evidence and their individual case to determine what pathway is most likely to result in favorable mental health outcomes for an adolescent.

³⁷ Lee, E. Y., Knox, C., & Phillips, E. J. (2023). Worldwide Prevalence of Antibiotic-Associated Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis: A Systematic Review and Meta-analysis. *JAMA Dermatology*.

CONCLUSION

32. In summary, gender-affirming medical care for adolescent gender dysphoria, when medically indicated, is supported by a substantial body of peer-reviewed scientific evidence that has been collected over more than a decade. Though these treatments, like all medical treatments, carry potential risks and side effects, these potential risks must be weighed against the benefits of treatment. It is essential that physicians be able to work with adolescents and their families to weigh benefits against potential risks and side effects and provide the care that is appropriate for a given adolescent and their family. Banning these medical interventions would leave physicians without any evidence-based treatments for adolescent gender dysphoria, which, when left untreated, has been linked to dramatic adverse mental health outcomes, including suicidality. For these reasons, all relevant major medical organizations (The American Medical Association, The American Academy of Pediatrics, The American Psychiatric Association, The American Academy of Child & Adolescent Psychiatry, The Endocrine Society, and The Pediatric Endocrine Society, to name a few) oppose bans on gender-affirming medical care for adolescents with gender dysphoria.

A handwritten signature in black ink that reads "Jack L. Turban". The signature is written in a cursive, flowing style.

Executed on: April 14, 2023

JACK L. TURBAN, MD, MHS